

RETURN-LOSS COMPLIANT DSL MODEM LINE INTERFACE UNIT WITH COMPLEX TERMINATION

ABSTRACT OF THE DISCLOSURE

[0032] A DSL line interface includes an impedance synthesizer that provides negative feedback to the differential amplifier in the DSL line interface so that the return loss standards for the return signal are met. The DSL line interface unit comprises a differential line driver including a first amplifier and a second amplifier for amplifying the DSL transmit signal, first and second complex termination modules coupled to the outputs of the first and second amplifiers, a transformer including a primary winding coupled to the transmission line and a secondary winding coupled to the first and second complex termination modules, and an impedance synthesizer module coupled between the secondary winding of the transformer and the first and second amplifiers to provide negative feedback to the first and second amplifiers.